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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/565,324

01/20/2006

Hiroko Ueda

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EXAMINER

LACLAIR, DARCY D

ART UNIT

PAPER NUMBER

1796

NOTIFICATION DATE

DELIVERY MODE

07/14/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

INFO@ORTPATENT.COM

<b>Office Action Summary</b>	<b>Application No.</b> 10/565,324	<b>Applicant(s)</b> UEDA ET AL.	
	<b>Examiner</b> Darcy D. LaClair	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

1. All outstanding rejections, except for those maintained below are withdrawn in light of the amendment filed on **3/31/2009**.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

The new grounds of rejection set forth below are necessitated by applicant's amendment filed on **3/31/2009**. In particular, **new Claims 27 and 28** have been added, reciting a mass ratio of zinc to aluminum or silicon of 82/18 to 99/1. This limitation was not present in the claims at the time of the preceding Office Action. Thus, the following action is properly made **FINAL**.

### ***Double Patenting***

#### *Double Patenting, I*

2. **Claims 1, 6-10, 22-26** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over **claims 1-4, 6, 21-22, 24, 26, 27-29** of copending **Application No. 10/555,707** (Published as **US 2006/0276598**).

The rejection is adequately set forth in **paragraphs 2 and 3** of the office action mailed **12/31/2008**, and is incorporated here by reference.

#### *Double Patenting, II*

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3. **Claims 1, 4, 6-10, 22-26** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over **claims 1-6, 10, 12, 14, 18-25** of copending **Application No. 10/570,965** (Published as **US 2007/0066167**).

The rejection is adequately set forth in **paragraph 4** of the office action mailed **12/31/2008**, and is incorporated here by reference.

*Double Patenting, III*

4. **Claims 1, 4, 6-10, 22** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over **claims 1-5, 9-10** of copending **Application No. 11/662,590** (Published as **US 2008/0075937**).

The rejection is adequately set forth in **paragraph 5** of the office action mailed **12/31/2008**, and is incorporated here by reference.

*Double Patenting, IV*

5. **Claims 1, 4, 6-10, 22-26** are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over **claims 1, 6, 11-15**, of **U.S. Patent No. 7473470**.

The rejection is adequately set forth in **paragraphs 6 and 7** of the office action mailed **12/31/2008**, and is incorporated here by reference.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

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art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. **Claims 27 and 28** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The applicant has directed attention to the ruling of *In re Wertheim*, 541 F.2d 257, 191 USPQ (CCPA 1976) in support of an example supporting a claim limitation having an endpoint between two endpoints taught in the specification. (See Remarks, p. 8, footnote) Attention is directed again to *In re Wertheim*, which states: "The inquiry into whether the description requirement is met must be determined on a case-by-case basis and is a question of fact." (See MPEP 2163.04) Therefore on the basis of case law and the MPEP, it is necessary to study the fact pattern in the instant case to determine whether support for the claims is present in the specification.

With regard to the preponderance of evidence required under this subsection of the MPEP, in this case, applicant has given a range of 50/50 - 99/1 (p. 6 line 5) and provided examples at 82/18. (p. 66 lines 15-29) The examples use 0.5 weight parts (and in only one case 0.1 weight parts) of the metal hydroxide complex, and the metal hydroxide complex has a diameter of 0.36  $\mu\text{m}$ . Furthermore, there is only one metal hydroxide complex employed, which is a zinc and silicon oxide hydrate. The claims as currently filed do not restrict the content or particle size of the metal oxide in any way, nor do they limit the metal hydroxide complex to one consistent with the examples, but

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rather to a complex containing zinc and a second metal selected from a small Markush group (silicon or aluminum). The claims, as currently recited, read on a broad variety of embodiments which are not consistent with the examples, taken as a whole. Based on the discrepancy between the exemplified compositions, and the embodiments which are consistent with the new claims, this recitation constitutes new matter, and is therefore rejected.

***Claim Rejections - 35 USC § 103***

7. **Claims 1-26** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Takai et al. (US 6,284,362)** in view of **Yamada et al. (EP 0 282 287)**.

The rejection is adequately set forth in **paragraph 8** of the office action mailed **12/31/2008**, and is incorporated here by reference.

8. **Claims 27 and 28** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Takai et al. (US 6,284,362)** in view of **Tai et al. (US 2003/0018114)**.

**With regard to Claims 27-28**, Takai teaches an absorbent composition having a microfiller and a hydrogel having a water absorptive resin, (see abstract) prepared by mixing a microfiller with a water absorptive resin in a hydrogel. (See col 3 line 45-50) The water absorbent resin has a crosslinked structure and an absorption amount for physiological saline under applied pressure of 20 g/cm<sup>2</sup> that is 25 g/g or more. (See col 4 line 63-65) Twenty grams per centimeter squared is equal to 1.96 kPa. The resin is obtained by polymerizing a radical polymerizable monomer such as unsaturated mono

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or polycarboxylic acids. (See col 7 line 1-7, 26-44) The microfiller is an inorganic filler, or one or a mixture of at least two selected from a group including silicon and aluminum oxides. (See col 4 line 40-45) Furthermore, Takai teaches that deodorants, zeolite, and so forth are added to the mixture during or after the drying step. (see col 15 line 10-13) Takai does not explicitly teach the details for a mixture of these oxides or the use of zinc in combination with these metal oxides.

Tai teaches a deodorizer to reduce odor caused by low molecular weight by-products produced by the degradation of food (see par [0004]) which is preferably zinc, aluminum, and silicon compounds, compositions containing a zinc compound and a silicon compound, or compositions containing a zinc compound and an aluminum compound. (see par [0177]) The double salts containing a zinc compound and a silicon compound are preferably used, and have zinc oxide and silicon dioxide in a weight ratio of 1:5 to 5:1, which is 80:16. (See par [0182]) Although this value is not exactly 82:18, it is the examiner's position that the values are close enough that one of ordinary skill in the art would have expected the same properties. Case law holds that a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985). A composition of a zinc compound and an aluminum compound having 100 parts by weight of the zinc compound to as little as 1 part by weight of the aluminum compound is also preferably used. (See par [0183]) This falls within applicant's claimed range. It is well settled that where the prior art describes the

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components of a claimed compound or compositions in concentrations within or overlapping the claimed concentrations a prima facie case of obviousness is established. See *In re Harris*, 409 F.3d 1339, 1343, 74 USPQ2d 1951, 1953 (Fed. Cir. 2005); *In re Peterson*, 315 F.3d 1325, 1329, 65 USPQ 2d 1379, 1382 (Fed. Cir. 1997); *In re Woodruff*, 919 F.2d 1575, 1578 16 USPQ2d 1934, 1936-37 (CCPA 1990); *In re Malagari*, 499 F.2d 1297, 1303, 182 USPQ 549, 553 (CCPA 1974)

It would be obvious, given that the microfiller of Takai is a metal oxide, to use the metal oxide of Tai. Additionally, Takai indicates that deodorants or zeolites may be used to further enhance the resin composition. Employing the deodorant of Tai's invention, which is useful in odors generated from the degradation of food, which is expected in the waste which Takai's resin is expected to encounter, would provide this inorganic filler or metal oxide while also achieving Takai's aim of deodorizing the resin.

### ***Response to Arguments***

9. Applicant's arguments filed **3/31/2009** have been fully considered. Specifically, applicant argues

**(A)** The claims have been rejected over Wada or Ishizaki; Wada is the US national phase of a PCT application, filed on May 7, 2004, and Ishizaki was granted on the US national phase of a PCT application filed on March 29, 2005; Applicants have submitted a verified translation of the Japanese application 2003-280373 filed on July 25, 2003, to which the instant application claims priority; this document describes the subject matter covered by Claims 1, 4, 6-10, and 22-26; in other words, these claims



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are entitled to the priority date; since the priority date is earlier than the PCT filing dates of Wada and Ishizaki, these two references do not qualify as prior art against the present application,

**(B)** Claim 1 covers a water-absorbent composition containing a hydrogel resin capable of absorbing a 0.90 mass% sodium chloride solution at the amount of not less than 20 g/g containing a water absorbent resin and a Zn-Si/Al oxide complex; Takai teaches a water absorbent composition containing a hydrogel resin capable of absorbing more than 25 g/g physiological salt and an inorganic metal oxide microfiller, which can be an oxide of Si, Al, Fe, Ti, Mg, or Zr; unlike Claim 1, this does not teach or suggest using a Zn-Si/Al oxide complex; Yamada teaches a combination of a polymer absorbent powder and a metal oxide deodorant made of SiO<sub>2</sub>, ZnO, and optionally Al<sub>2</sub>O<sub>3</sub>; unlike Claim 1, this reference does not disclose a composition having an absorption capability not less than 20 g/g; In short, neither Takai nor Yamada teaches or suggests both features required by Claim 1; Even if a prima facie case of obviousness is established, which applicants do not concede, unexpected results are provided in the Specification; specifically, the specification describes 11 compositions (see p. 66-69) having absorption ratios not less than 20 g/g and containing a Zn/Si-Al oxide complex as required by Claim 1; as shown on Table 2 on pages 76-77, all of these compositions had excellent deodorizing effect, but the compositions noted as Comparative Examples 1-3 and 9-11 had significantly lower deodorizing effect; Comparative Example 1-3 contained a Zn-Si/Al oxide complex but had an absorption ratio less than 20 g/g, which corresponds to the Yamada composition; Comparative

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Examples 9-11 each contained one of Zn, SiO<sub>2</sub>, and Al<sub>2</sub>O<sub>3</sub> and had an absorption capability higher than 25 g/g, corresponding to the Takai composition; in view of the unexpected advantage in the absorption of hydrogen sulfide disclosed, Claim 1 is not rendered obvious by Takai and Yamada; Claim 10 covers a method for producing a water-absorbent resin composition, which requires a water absorbent resin having an absorption capability not less than 20 g/g and a Zn-Si/Al oxide complex; since these features are not obvious over Takai and Yamada, the method is also not obvious,

**(C)** Applicants would like to address the double patenting rejections after the Examiner has removed the obviousness rejections discussed above, and

**(D)** New Claims 27 and 28 each recite a mass ratio of Zn oxide to Si/Al oxide ranging from 82/18 to 99/1; this subject matter is described in Japanese application 2003-280373, page 10 line 1 and page 68 line 3 in the English translation prepared by Yukiko Uetake submitted with the response; Thus claims 27 and 28 are entitled to the July 25, 2003 priority date; moreover, the new claims 27 and 28 are patentable over Takai and Yamada for the same reasons that Claims 1 and 10 are patentable; Claims 27 and 28 are also distinguishable from Takai and Yamada in that neither Takai nor Yamada teaches or suggests any mass ratio falling within this range; Takai fails to disclose a combination of Zn oxide and Si/Al oxide, let alone a ratio, and Yamada teaches a composition having 5-60 mol% of ZnO, 5 to 80 mol% of SiO<sub>2</sub>, and 0-60 mol% of Al<sub>2</sub>O<sub>3</sub> (see p. 4 lines 11-13) which contains less than 67 mass% ZnO; therefore this composition teaches away from a mass ratio of 82/18 to 99/1 (corresponding to 82 mass% ZnO or higher).

**With respect to argument (A)**, applicant's arguments have been considered and are **persuasive**. The verified translation, prepared by Yukiko Uetake has been examined and provides support for Claims 1, 4, 6-10 and 22-26. This supports a claim for priority to July 25, 2003, which is earlier than the publication and PCT filing dates of Wada and Izhizaki. Furthermore, the family publications for both Wada and Izhizaki have been reviewed, and there is no publication in the family for either of these documents which extends beyond the priority date of the instant application.

**With respect to arguments (B)**, applicant's arguments have been considered but are **not persuasive**. First, with regard to establishing a prima facie case of obviousness, Takai teaches an absorbent composition having a microfiller and a hydrogel with high absorbency (see abstract) and teaches a) a mixture of at least two of the group including silicon and aluminum oxides as the microfiller (see col 4 line 40-45) and b) that deodorants, zeolite, and so forth may be added to the mixture. (See col 15 line 10-13) Yamada teaches a deodorizer which is a metal oxide hydrate composed of  $\text{SiO}_2$ ,  $\text{ZnO}$ , and  $\text{Al}_2\text{O}_3$ . (See p. 3 line 20-35) Given that Takai teaches both a microfiller and deodorants, there are several reasons to include this improved deodorizing complex of Yamada in the composition of Takai either as the microfiller, which would then be multifunctional and improve the resulting composition, or as a deodorant. Furthermore, Takai teaches incorporating these components, and Yamada teaches mixing the deodorant in a resin, which is consistent with the method steps of obtaining and mixing the components. Second, with regard to applicant's alleged unexpected results, the Examiner has studied the examples and the comparative examples. The

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examples give a variety of resins used in combination with 0.5 weight parts of the metal oxide complex, where the metal oxide complex has a ratio of 82/18 and a particle size of 0.36  $\mu\text{m}$ . There is one example which uses the complex at 0.1 weight parts, and 2 examples which use a ratio of 90/10. This is not consistent with the breadth of applicant's claims which require a ratio of 50/50 to 99/1, 60.40-99/1, and (in the new claims) 82/19-99/1. Furthermore, the claims do not give a content of the metal oxide complex, and do not specify the particle diameter of the complex. The breadth of the claims is not consistent with the specific and narrow examples provided in the specification. Furthermore, the comparative examples show several alternative resins with the complex, which have lower absorption, consistent with the lower absorption observed in Yamada alone, and alternative complexes with absorbent resins, consistent with Takai alone, however there are no examples which demonstrate that applicant has discovered unexpected results over any combination of Takai and Yamada; in fact results are demonstrated only in a narrow range, therefore it is not clear that the results are consistent over the entire range claimed by applicant, nor is it evident that unexpected results are achieved at the points exemplified by applicant. Additionally, it is expected that the good absorbency of Takai's resin would be maintained regardless of the deodorant included, and it is expected that the good deodorizing properties of Yamada's complex would function in any resin in which it is employed, as Yamada's complex is designed for use in a resin composition. There do not appear to be any type of synergistic results improving the absorbency or the deodorizing property by the combination of a highly absorbent resin and a highly deodorizing complex, merely a

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combination of the previously recognized beneficial results of each individual invention (Takai and Yamada, respectively), in a single product.

**With respect to argument (C)**, Applicant is advised that the provisional obviousness-type double patenting rejections of record over copending **Application No. 10/555,707**, copending **Application No. 10/570,965**, copending **Application No. 11/662,590**, and **U.S. Patent No. 7473470** are being maintained until properly overcome.

**With respect to argument (D)**, applicant's arguments have been considered, but are moot in view of the rejection set forth above. However, attention is directed to paragraph 6, above, as support for these claims is not noted.

### ***Conclusion***

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Darcy D. LaClair whose telephone number is (571)270-5462. The examiner can normally be reached on Monday-Friday 8:30-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Darcy D. LaClair  
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